

Mechanical Q&A 2007

Attention: □ Denotes a new question!

■ Denotes a revised/revisited question.

November 2007

General:

1) *(Q) May the gas be turned on temporarily to the gas piping system without the installation of the appliance?*

(A) NO!

2) *(Q) Are traps required on all condensate drains from equipment?*

(A) Only if so required by the equipment manufacturer.

3) *(Q) Who is responsible for inspecting an industrial "type B" oven?*

(A) Code Enforcement would be responsible for the gas line up to the 100% cut-off. The General Assembly has removed Industrial Equipment from the scope of the NC Building Codes.

4) *(Q) What is the proper size of a condensate line connecting multiple condensate*

(A) Residential (3 to 5 tons)

- Increase pipe size each time you add additional unit (vertical only) up to 1 ½ inch pipe size.

Commercial

- Increase pipe size each time you add additional unit (vertical only) up to 2 inch pipe size.

5) *(Q) Wall mounted equipment typically reference clearances from both combustible and noncombustible materials for purposes of fire protection and electrical shock protection as well as serviceability. What is the range or extent of those clearances?*

A) The physical distance required by the manufacturer shall be deemed to extend from the earth/floor upwards to the sky/ceiling unless otherwise specifically addressed by the manufacturer.

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6) □ (Q) *What should an inspector do when confronted with a deviation from the approved drawings and the deviation would also meet the Code?*

(A) The inspector needs to ask him/her self, “Is this a substantial deviation from the approved set of drawings”? This is the inspectors call! If the deviation is substantial, the plans need to be changed to reflect the installed work.

Gas Piping:

1) (Q) *May “smurf” conduit be used as an alternative material to PVC schedule 40, when required to protect flexible gas piping installed on the exterior of a structure?*

(A) Yes, it may be used for copper and CSST protection outside the structure within the first three feet of finish grade.

2) (Q) *What is the status of the bonding of CSST gas piping in Mecklenburg County?*

(A) The bonding of CSST gas piping is not addressed in the NC Fuel Gas Code and is considered an electrical issue. The Electrical Chief (Mecklenburg County) has ruled that a gas appliance with electrical connections is already grounded. Should the installer have any additional concerns, he/she should contact an electrical contractor.

3) (Q) *Where does the measurement for the protection of gas piping installed through a top plate start?*

(A) The 4 inch measurement starts from the bottom face of the double plate.

4) (Q) *What is the required length nipple required on an appliance drip leg/sediment trap?*

(A) The length shall be determined by the manufacturer’s installation instructions.

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5) *(Q) May a contractor use a close nipple for a sediment trap on a fire log installation and place the trap and regulator in the access box provided in the enclosure?*

(A) The nipple length shall be determined by the regulator manufacturer and may be placed within the enclosure provided the trap is vertical (not tilted). Otherwise you may use the attic or crawl space.

6) □ *(Q) How should a tracer wire installed with plastic gas piping, be repaired should the wire be damaged or cut?*

(A) Repair to tracer wiring should be performed such that the wire is continuously conductive.

Equipment:

1) *(Q) Where may condensate be disposed?*

(A) Condensate may be discharged indirectly into an approved waste receptor such as a laundry sink, hub/floor drain, and washing machine box or may discharge to the outside in a dry well or drip to the ground provided it does not cause a nuisance.

2) *(Q) How do you connect two or more condensate lines together?*

(A) Connect lines together in a vertical plane, increasing the pipe size with each connect up to 2".

3) *(Q) Does the float switch have to be wired on Final inspection?*

(A) No!

4) *(Q) May a single auxiliary drain pan be provided for multiple furnaces (side by side)?*

(A) The Code states in 307.2.3 that a separate pan for each unit or cooling coil.

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5) (Q) *Does the area directly beneath an equipment scuttle for an attic space, prohibit items (i.e. beds, dryers, dressers, washing machines, etc.) from being placed there?*

(A) No. The Code does not address the placement of items beneath a scuttle as long as the clearance for removal is sufficient.

6) (Q) *Does the post protection for a water heater installed in a garage, require a 12" clearance to the appliance?*

(A) No, as long as the components of the appliance can be removed for service and/or repair.

7) (Q) *Do convection ovens require a hood?*

(A) If they produce grease laden vapor, they would require a type I hood. If they cook items that have no fat or have been pre-rendered of their fat and are just reheating, then no hood is required for a single oven.

Note: Plans submitted with a single oven installed in a double rack with power connections for both will be treated as multiple ovens.

8) (Q) *Would a typical cooking appliance, cooking process or restaurant hood system, be considered industrial equipment and exempt from the NC Building Codes?*

(A) No (It does not create a product)

9) (Q) *May contractors buy raw materials and assemble unvented gas log enclosures?*

(A) No! All enclosures shall be listed and labeled.

10) □ (Q) *Do Panini grills require a hood?*

- No, if the grill is 3000 watts or less and you are ONLY toasting/warming bread.
- Yes, (Type II hood) if you are over 3000 watts and/or you are warming pre-rendered food items.
- Yes, (Type I hood) if you are cooking any grease producing food items.

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Duct:

1) *(Q) When and where is R-8 insulation required?*

(A) : • Residential under NC Residential Code may still use that codes energy section until June 30th, 2007 which requires R-8 on duct placed outdoors.

• All other building types are required to have R-8 insulation on supply ducts installed outside the building envelop which would include unconditioned attics.

2) *(Q) Is it acceptable to provide access to an oval/round fire damper (for resetting) by the utilization of a readily removable clamp on the flex duct connection?*

(A) Mecklenburg County will allow the access to the damper provided:

- The flex duct is 12” or smaller.
- The removable clamp is stainless steel worm type clamp.
- Installation does not violate the manufacturer’s installation instructions.

3) *(Q) What type of tape is allowed to be used to seal metal duct?*

(A) Any listed UL 181 tape is approved.

4) *(Q) May duct be hung from other duct or piping?*

(A) No. Duct shall be supported by the structure.

5) *(Q) May vent connectors be installed in an attic?*

(A) They have to be installed per the manufacturer’s installation instructions and the Energy Code requirements.

6) *(Q) Are insulation shields required?*

(A) Yes (see NC Gas section 502.4)

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Exhaust/Flue:

1) *(Q) Does the upper combustion air duct (2 duct system) require a slope?*

(A) Yes! See section 304.11 (#6) of the 2006 NC Fuel Gas Code.

2) *(Q) May 4" PVC be used as a dryer exhaust below slabs on residential units?*

(A) Mecklenburg County will allow schedule 40 PVC (4") as a dryer exhaust below slabs on residential units provided:

- The piping is sloped to the termination.
- Not more than 1" of PVC extends above the slab before the transition to metal.
- The exhaust shall terminate a minimum of 12 inches above finish grade (grade must be uniform within 200 square feet).
- Requires additional mechanical inspection (slab).

3) *(Q) When calculating the maximum run of dryer exhaust, are bends of 15° or less, considered straight piping?*

(A) No! Bends (usually made with fittings) in dryer exhaust piping are rounded up. A bend of 15° would be rounded to 45°, as so on.

4) *(Q) To what degree does residential hood exhaust duct have to be sealed?*

(A) Horizontal joints where lengths of piping are connected shall be sealed with a non-combustible tape unless a manufactured system installed by listed instructions.

5) *(Q) When does a contractor have to install clean outs on vertical exhaust duct?*

(A) At the beginning (base) of the vertical run and at each floor level.

6) *(Q) Is mechanical ventilation required in a one or two family residential garage?*

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(A) The Code requires ventilation in garages but, does not require that ventilation to be mechanical in nature.

7) *(Q) How much of the appliance venting has to be completed on the rough inspection?*

(A) All must be complete!

8) *(Q) May dryer exhaust be run into or through a rated floor or ceiling assembly?*

A) 504.2 of the NC Mechanical Code prohibits the dryer exhaust from penetrating or running through a rated assembly unless the exhaust complies with table 603.4 AND is protected per the NC Building Code.

9) *May a contractor common vent a bath exhaust with a type II hood?*

(A) No. You cannot commingle a hazardous exhaust with a ventilation requirement.